

Data Security on Internet of Things Device Using Hybrid Encryption Models

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Abstract- The development of IoT in various sectors causes new security issues. There have been many cases of breaking data and data theft on the IoT system due to poor system security, especially on the IoT device. This study focuses on how to secure data on IoT device before the data is sent to the server using a hybrid encryption model. This hybrid encryption model is a combination of AES and ECDH algorithms. Firstly this model is attempted to be implemented on RaspberryPi device. An analysis of the computational load and communication load of the encryption process is perform to measure effective and efficient of this model. The last is perform a simulation of MITM attacks to find out how well the effectiveness of this model. The results of this study shows that this encryption model is suitable enough for use on IoT device without having to overload the memory usage of device.

Keywords : *IoT Security, Encryption, Hybrid Encryption*